

RESPONSE Under 37 CFR § 1.114
Appln. No.: 09/831,450

REMARKS

The present invention relates to a co-catalyst for purifying an exhaust gas, comprising a composite oxide including (a) cerium, and (b) at least one element selected from the group consisting of zirconium, yttrium, strontium, barium and a rare-earth element supported on a particulate aluminum oxide support.

Claims 1-3 are pending in the application.

The outstanding issue in this case is the asserted obviousness under 35 U.S.C. § 103(a) of claims 1-3 based on U.S. Patent 5,919,727 (Brezny) in view of U.S. Patent 5,958,829 (Domesle et al.).

The Brezny reference has been relied upon as disclosing a composite powder containing cerium oxide and at least one other non-noble metal oxide in solid solution, and, *inter alia*, having a surface area of about 60 m²/g, an oxygen storage capacity of about 200 to 600 umol/g up to about 700°C, and of about 500 to 1200 umol/g up to about 1,000°C. Brezney was also relied upon as disclosing coating the composition onto a substrate, and it was also noted that Brezney has a noble metal catalyst deposited onto the composition.

It was conceded that the Brezney reference is silent with respect to the use of an aluminum oxide support, which is recited in the present claims. However, it was asserted that it would have been obvious to a person of ordinary skill in the art to use an aluminum oxide support in view of the advantages disclosed by the Domesle et al reference.

Applicants respectfully traverse, and submit that the presently claimed invention is unobvious and patentable under 35 U.S.C. 103(a). More particularly, Applicants submit that a person of ordinary skill in the art would not be lead by consideration of the Brezney reference's

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disclosure to modify Brezney in view of the disclosure of the Domesle et al reference so as to derive the presently claimed invention.

More particularly, as has been recognized, Brezney does not teach or suggest the use of aluminum oxide in the composite powder even though in the background discussion of Brezney at column 1 reference was made to aluminum-based catalyst carrier material being known in the prior art. Therefore, a person of ordinary skill in the art would simply follow the teachings of Brezney, which does not teach or contemplate support on a particulate aluminum oxide support. It is respectfully submitted that if Brezney does not teach or suggest supporting a co-catalyst on a particulate aluminum oxide support, even with recognized knowledge of existence of aluminum based catalyst carrier materials, there is no reason why a person of ordinary skill with knowledge of the Domesle reference would be lead to modify Brezney in a manner so as to derive the presently claimed invention.

Also, aluminum oxide is not water-soluble, which may be a reason that Brezney does not suggest using particular aluminum oxide as a support. That is, it may not be possible to perform the spray pyrolysis process of Brezney in the presence of aluminum oxide.

Pursuant to the telephone communication between the above-identified Examiner and the undersigned attorney on April 30, 2004, upon receipt of the Request For Continued Examination and this Response to the outstanding issue under 35 U.S.C. § 103, if the application is not to be immediately allowed, the Examiner is requested to contact the undersigned attorney regarding the conducting of an Interview.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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